Attachment J09

Fort Monroe Wastewater System

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J09.1 Fort Monroe Overview

Fort Monroe is located at the southeastern tip of the Virginia lower peninsula on a sand spit between Hampton Roads and the Chesapeake Bay. Fort Monroe is completely surrounded by water except for the northern tip and is connected to the mainland by two bridges at the western end. Originally named Fortress Monroe, in honor of James Monroe, our fifth president, it was designated Fort Monroe by the secretary of war in 1832. The Fort encompasses 568 acres, of which approximately 108 acres are under water. Today, Fort Monroe is the home of the Army's Training and Doctrine Command (TRADOC), whose mission is to develop the doctrine, weapon systems, equipment, organizations and training needed for the battlefields.

J09.2 Wastewater System Description

The Fort Monroe Wastewater system consists of all appurtenances physically connected to the system from the point in which the Government ownership currently, starts to the point of demarcation defined by the real estate instruments. Generally, the point of demarcation will be the building footprint. The system may include, but is not limited to the manholes, lift stations, and the collection lines including service laterals. The following description and inventory is included to provide the Offeror with a general understanding of the size and configuration of the Collection system. The inventory is assumed to be approximately 90 percent complete. The Offeror shall base the proposal on site inspections, information in the bidder's library, other pertinent information, and to a lesser degree the following description. Under no circumstances shall the successful Contractor be entitled to any rate adjustments based on the accuracy of the following description and inventory.

J09.2.1 Wastewater System Fixed Equipment Inventory

Sanitary sewage at Fort Monroe is collected through a sanitary sewage system composed of main collection sewers (both gravity and force mains), service connection sewers and 13 sanitary sewage stations (3 lift stations and 10 ejector pump stations). The conditions of the sewer lines vary because they were installed at various times over the last 85 years. One additional lift station is located off Fort Monroe at the Big Bethel Water Treatment Plant (see Section J09.8)

The installation's sewer mains and service connections consist of 2-inch through 14-inch gravity and pumped-flow force main (FM) lines. Most of the gravity lines are vitrified clay pipe and most of the force mains are cast-iron pipe. During the 1970s all inadequate segments of the lines were replaced.

All Fort Monroe sanitary sewage is pumped from the Final Pumping Station, in the vicinity of the Commissary, through a 16-inch force main, to its connection with the Hampton Roads Sanitation District. This force main exits the Final Pumping Station and follows an alignment generally along the west side of McNair Drive, across the installation main entrance intersection to the west side of Mercury Boulevard, then suspended under the Mercury Boulevard Bridge and onward to a Hampton

Roads Sanitation District manhole on the other side of the bridge, in the vicinity of the intersection of North Willard Street and Mercury Boulevard, Phoebus, VA.

The installation's sewage collection system is generally defined by three areas:

North Area -The area north of the moat from Battery Parrott northward to Dog Beach.

Main Post Area -The main post area west and northwest of the moat area.

Moat Area -The area within the moat (the fortress) and south along Fenwick Road.

The North Area is served by a 12-inch force main from a pumping station in the vicinity of the Post Exchange to the Final Pumping Station. This North Area Pumping Station is fed by a subordinate pumping station serving the area north of Battery DeRussey. It is also fed by a collection system of 8-inch gravity mains (capacity of 0.5 MGD) serving the Wherry Family Housing Area and nearby community facilities.

There exists, off of this 12-inch force main, an outfall box (and gate valve) with a 14-inch emergency out fall line into the Chesapeake Bay, in the vicinity of Battery Parrott. This safety outlet is only for major installation emergencies which may endanger life and health such as a significant sewage system blockage or other system malfunction. Chlorine equipment is located at the Final Pumping Station for purposes of adding chlorine to the sewage prior to dumping it into the Bay. The last occasion for use of this outfall was during the Spring of 1988.

The Main Post Area is principally served by a 12-inch gravity main (apparent capacity of 1.1 MGD, but practical capacity of 0.6 MGD) which follows Ingalls Road from manhole 10 to the Final Pumping Station. This main is fed by a collection system of 10-inch, 8-inch and 6-inch gravity mains serving the main post area. The capacity limitation of 0.6 MGD is due to the gravity main's overall slope of 0.275 percent and other flatter profiles in certain sections of the main.

The Moat Area is served by a 12-inch gravity main (capacity of 0.5 MGD) from manhole 27 to the Final Pumping Station. This main is fed by a collection system of two sources:

- an 8-inch gravity main serving the area along Fenwick Road
- a 6-inch force main serving the area within the moat

Lift Stations

Due to the relatively flat terrain, Fort Monroe utilizes thirteen lift stations, including one inactive station, within the wastewater collection system. Per the installation's *Real Property Master Plan*, dated 1996, all pumps have been serviced or replaced within the last four years of that date.

Lift Station Summary

Collection Area	Type of Station	Building Number	Number of Pumps	Pump HP (Total)	Pump GPM (Total)
North	Ejector	38	2	6	140
North	Ejector	251	2	10	240
North	Pump	254/197	2	10	1300
North	Ejector	165A	2	10	54
North	Pump	184	3	15+	2100
Main Post	Ejector	58	2	10	900
Main Post	Pump	180	3	55	3800
Main Post	Ejector	92	1		500
Main Post	Ejector	145A	1	2.5	120
Main Post	Ejector	135	2	6	140
Main Post	Ejector	183	2	6	140
Main Post	Ejector	255	2	5	240
Moat	Pump	256	2	10	780

From Real Property Master Plan, 1996

Only the Final Pumping Station (Building 180) is equipped with emergency generators for use in the event of electrical power failure.

In 1992, a major renovation project (interior pipe relining) was completed involving all force main lines on the installation. The largest effort was the interior relining of the 16-inch cast iron pumped-flow, force main from the Final Pumping Station, in the vicinity of the Commissary, off post to its connection with the Hampton Roads Sanitation District.

J09.2.1.2 Inventory

Table 1 provides a general listing of the major Wastewater system fixed assets for the Fort Monroe Wastewater system included in the purchase. The system will be sold in a "as is, where is" condition without any warranty, representation, or obligation on the part of Government to make any alterations, repairs, or improvements. Ancillary equipment attached to, and necessary for, operating the system, though not specifically mentioned herein, is considered part of the purchased utility.

TABLE 1

Fixed Inventory
Wastewater Collection System Inventory

Item	Size	Quantity	Unit	Approximate Year of Construction
Pipe and Mains	Less than 4"	2,355	Linear Feet	Various

	4”	3,966	Linear Feet	Various
	6”	32,557	Linear Feet	Various
	8”	18,914	Linear Feet	Various
	10”	3,365	Linear Feet	Various
	12”	9,782	Linear Feet	Various
	16”	4,931	Linear Feet	Various
Total		75,870	Linear Feet	Various
Building Services		375	Each	Various
Manholes		270	Each	Various
Pump/ Lift Stations		73	Each	Various
Lift Stations w/ Buildings		3	Each	Various
Lift Stations Precast		3	Each	Various
Ejector Stations		7	Each	Various

J09.2.2 Wastewater Collection System Non-Fixed Equipment and Specialized Tools Inventory

Table 2 lists other ancillary equipment (spare parts) and **Table 3** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment and tools. The successful Contractor shall provide any and all equipment, vehicles, and tools, whether included in the purchase or not, to maintain a fully operating system under the terms of this contract.

TABLE 2
Spare Parts
Wastewater System

Qty	Item	Make/Model	Description	Remarks
See Note Immediately Below				

NOTE: Fort Monroe maintains an inventory of spare parts for the wastewater collection system. Contents of this inventory vary as items are used and/or purchased. Availability of this inventory to the new owner will be negotiated before or during the transition period.

TABLE 3
Specialized Equipment and Vehicles
Wastewater System

Description	Quantity	Location	Maker
None Identified			

J09.2.3 Wastewater System Manuals, Drawings, and Records Inventory

Table 4 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 4
Manuals, Drawings, and Records
Wastewater System

Qty	Item	Description	Remarks
	See Note Immediately Below		

NOTE: Fort Monroe maintains a limited collection of technical manuals, drawings and records on the installed components of the wastewater collection system. This information will be transferred to the new owner during the transition period. System maps will be available in the bidders' library.

J09.3 Current Service Arrangement

The Fort Monroe wastewater collection system conveys wastewater to an off-Post pump station owned by the Hampton Roads Sanitation District (HRSD). HRSD pumps the wastewater to an HRSD wastewater treatment facility.

J09.4 Secondary Metering

The Base may require secondary meters for internal billings of their reimbursable customers, utility usage management, and energy conservation monitoring. The Contractor shall assume full ownership and responsibility for existing and future secondary meters IAW Paragraph C.3.

J09.4.1 Existing Secondary Meters

Table 5 provides a listing of the existing (at the time of contract award) secondary meters that will be transferred to the Contractor. The Contractor shall provide meter readings once a month for all secondary meters IAW paragraphs C.3 and J09.5 below.

TABLE 5
Existing Secondary Meters
Wastewater System

Meter Location	Meter Description
There are no secondary meters in the Fort Monroe wastewater collection system that are maintained and read by Fort Monroe. If such meters are added in the future, information will be provided to the new owner of the Fort Monroe wastewater system for the performance of meter reading.	

J09.5 Submittals

The Contractor shall provide the Government monthly submittals for the following:

1. Invoicing (IAW paragraph G.2) for the previous month's services. The Contractors invoice shall be prepared in a format proposed by the Contractor and accepted by the Contracting Officer.
2. Monthly Service Interruption Report for the previous month.

3. Meter Reading Report in support of internal billings, Wastewater usage management, and monitoring.

4. System Efficiency Report. If required by Paragraph C.3 the Contractors shall submit a system efficiency report in a format proposed by the Contractor and accepted by the Contracting Officer.

5. System malfunctions, discharges or overflows will be reported immediately to the Contracting Officer's designee. The Contractor, as the owner/operator of the system, must notify the State of Virginia of any discharges or overflows immediately.

J09.6 Infiltration and Inflow (I&I) Projects

IAW paragraph C.3, Utility Service Requirement, the following projects have been implemented by the Government for I&I reduction purposes:

An I&I study is currently ongoing at Fort Monroe. The primary goal of this project is to determine the quantity of storm water and groundwater entering the wastewater collection system and to determine the locations where clean water was entering the system. To accurately depict the volume rate of inflow/infiltration and to identify sources, the following was accomplished: Pipe flow monitoring, rainfall gauging, groundwater gauging, physical inspection, smoke testing and internal pipeline inspections. The project is expected to be completed on or about 30 JULY 2001. The results will be available at the Directorate of Public Works to anyone interested subsequent to the study's completion.

J09.7 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Fort Monroe boundaries.

J09.8 Off-Installation Sites

There is one wastewater pumping station that serves the wastewater needs of the Big Bethel Water Treatment Plant on Semple farm Road in Hampton that is included in this privatization action. This pumping station with associated piping (approx. 400 linear feet) collects wastewater from the buildings at the Water Treatment Plant and pumps the water to an HRSD main line running along Semple Farm Road. The wastewater that this pumping station handles does NOT include the raw waste from the production of water at the treatment plant, just the standard wastewater for a typical industrial facility. The pumping station is listed as having a 5HP pump.

J09.9 Specific Transition Requirements

IAW Paragraph C.13, Operational Transition Plan, **Table 6** lists service connections and disconnections required upon transfer, and **Table 7** lists the improvement projects required upon transfer of the Fort Monroe Wastewater system.

TABLE 6
Service Connections and Disconnections
Wastewater System

Description

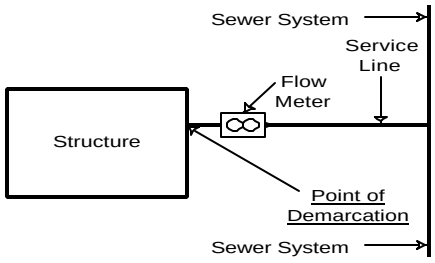
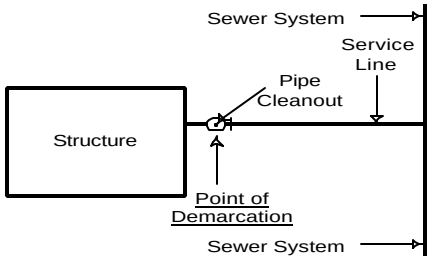
NOTE: None identified as of the beginning of FY01. Required service connections and disconnections will be provided to the Contractor as the requirements become known.

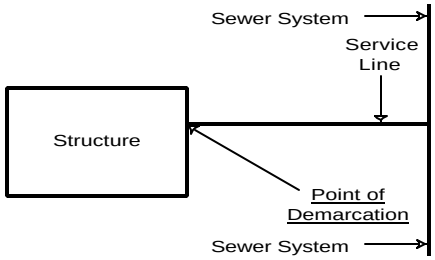
TABLE 7
System Improvement Projects
Wastewater System

Project Location	Project Description
None Identified	

J09.10 Wastewater System Points of Demarcation

The point of demarcation is defined as the point on the wastewater collection pipe where ownership changes from the Grantee to the building owner. The table below identifies the general locations of these points with respect to the building for each scenario. During the operation and maintenance transition period, concurrence on specific demarcation points will be documented during the joint inventory of facilities.

Point of Demarcation	Applicable Scenario	Sketch
Point where the service line enters the structure	Sewer system flow meter is located on the service line entering the structure.	
Point of demarcation is the cleanout device if it is within 10' of the building perimeter	No flow meter exists and a sewer system cleanout is located within 10 feet of the building perimeter on the service line.	

Point of Demarcation	Applicable Scenario	Sketch
Point where the service line enters the structure *Note: A new cleanout device should be installed within 10' of building during any stoppage or maintenance action. This will then become the new point of demarcation.*	No flow meter or cleanout (within 10 feet of the building) exists on the service line entering the structure.	

Unique Points of Demarcation

The following table lists anomalous points of demarcation that do not fit any of the above categories.

Building No.	Point of Demarcation Description
None	